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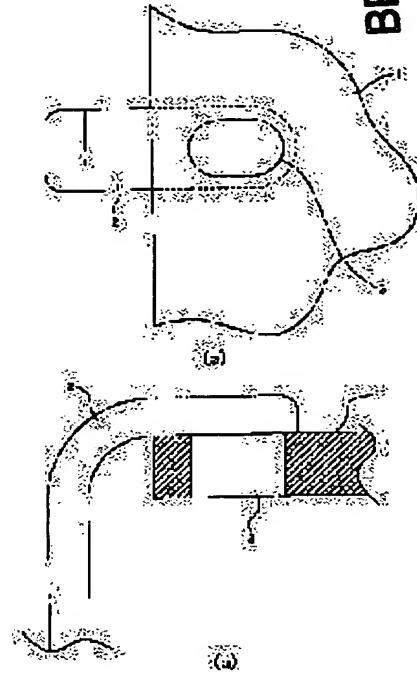
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 (22)Date of filing : 21.08.1996 (72)Inventor : YAGUCHI KENICHI

(54) RIMLESS SPECTACLES

(57)Abstract:

PROBLEM TO BE SOLVED: To obtain excellent appearance and safety by fitting projections formed in the regions of lens holding members where these members come into contact with lenses via adhesives into through-holes bored at the lenses.

SOLUTION: A plastic lens 1 is bored with one hole in the installation position of a wraparound endpiece 2 and the installation position of a bridge toward a thickness direction. The projection 3 is formed at the front end part of the wraparound endpiece 2 and the shape thereof is the same long hole shape as the shape of the hole. Fixing of the lens 1 and the wraparound endpiece 2 is executed by applying the adhesive to the hole bored at the lens 1 or the surface of the projection 3 and fitting the projection 3 to the hole. Adhesives of an epoxy system, acrylic system, cyanoacrylate system, anaerobic system, etc., are usable as the adhesive. The indispensable requirement for the hole to be bored at the lens 1 is that the hole is penetrated. In the case of the one projection 3, the long hole shape is preferably as the shape of the projection 3 in terms of prevention of turning of the lens 1.



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技術表示箇所

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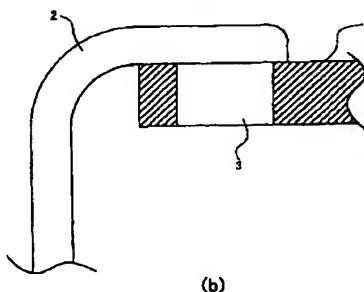
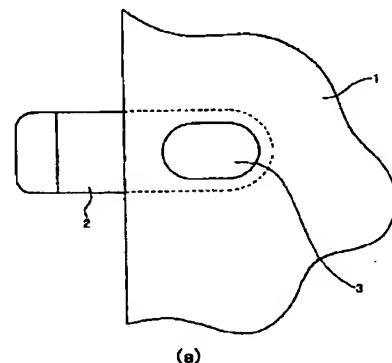
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(54) 【発明の名称】 リムレス眼鏡

(57) 【要約】

【課題】 安全性、外観に優れたリムレス眼鏡を得る。
【解決手段】 本願発明のリムレス眼鏡は、レンズを保持するレンズ保持部材のレンズとの接触領域に突起が形成されており、この突起が前記レンズに穿設された貫通穴に接着剤を介して嵌合している。



【明細書】

【特許請求の範囲】

【請求項1】 レンズを保持するレンズ保持部材におけるレンズとの接触領域に形成された突起が前記レンズに穿設された貫通穴に接着剤を介して嵌合することを特徴とするリムレス眼鏡。

【請求項2】 前記突起の表面に凹凸が形成されていることを特徴とする請求項1記載の眼鏡。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】 本願発明はリムのない眼鏡に関し、特にネジやナットを用いずにレンズがヨロイに保持された眼鏡に関する。

【0002】

【従来の技術】 従来の眼鏡は、リムによりレンズ端部周辺を全て覆い、リムにレンズを固定するものが一般的なものであった。しかし、最近では使用者の要望が多種多様になり、眼鏡のデザインの種類も多くなってきている。そして、ファッション性の向上のため、リムの目立たない眼鏡の需要が高まってきた。

【0003】 その中でもレンズをネジとナットで取り付けるタイプのものが一般的である。このタイプの眼鏡の正面概略図を図6aに示す。また、図6bに上方から見たときの概略図を示す。レンズ1の一端には、ヨロイ2を取り付けるための取り付け穴が穿設されている。ヨロイ2の先端部には、レンズ受金具4(図6参照)が固着されている。このレンズ受金具4には穴が穿設されており、これとレンズ1の穴が重なる用になる。そして、レンズ受金具4の穴とレンズ1の穴にボルト5を貫通させ、レンズのR2面側からナット6で締めつけることにより固定していた。

【0004】

【発明が解決しようとする課題】 従来のボルトやナットを用いレンズを固定する眼鏡の場合、以下のような問題点があった。第1に、眼鏡を装用していくうちに、ネジとナットの締めつけが緩み、レンズの固定が外れやすくなることがあった。第2に、ボルトとナットによる締めつけ構造に起因し、締めつけに係わる部位の寸法が大きくなり、外観的な煩わしさを感じることがあった。更に、部品点数が多くなり、製造工程も多く、また複雑になることから製造時間がかかる等の問題点もあった。そのため、製造コストを削減することも困難であった。

【0005】 ボルトとナットを用いない別の従来例(特開平7-230062)では、眼鏡を正面から見た場合、レンズ端面から嵌挿したヨロイの嵌挿部が見え、外観上煩わしさを感じることがあった。また、この従来例では、レンズに穿設する穴が貫通していないので、接着剤を用いヨロイを接着すると嵌挿したヨロイの嵌挿部の根元の穴との近接部に余分な接着剤が溢れ出してしまうことがあった。これを除去する場合、ヨロイの嵌挿部が

邪魔になり接着剤が除去しにくく、製造しにくいという問題点があった。また、レンズに穿設した穴の底に、気泡が残存してしまい、見栄えの悪い眼鏡が製造されてしまう問題点も生じた。

【0006】

【課題を解決するための手段】 本発明者は、まずボルトとナットによる締めつけ構造について検討した。その結果、レンズの固定において、レンズ受金具4とレンズ1に穿設した穴の中心との位置関係が重要であることが分かった。本発明者は、この位置関係を検討したが、ボルトとナットを用いる構造である以上、固定が緩んでしまう問題点、部品点数、製造工程、製造コストの問題点を解決することはできなかった。

【0007】 そこで本発明者は、ボルトとナットを用いずにレンズを固定し、更に外観が優れ、容易に製造できるレンズの固定構造を見いだした。本願発明は、第1に「レンズを保持するレンズ保持部材におけるレンズとの接触領域に形成された突起が前記レンズに穿設された貫通穴に接着剤を介して嵌合することを特徴とするリムレス眼鏡(請求項1)」。第2に「前記突起表面に凹凸が形成されていることを特徴とする請求項1記載の眼鏡(請求項2)」。

【0008】

【発明の実施の形態】 図1に本願発明の一実施例の概略図を示す。図1aは、本実施例の眼鏡を正面から見たときのレンズとヨロイの固定部分の概略図であり、図1bは上記の部分を上方から見たときの断面の概略図である。プラスチックレンズ1には、ヨロイの設置位置とブリッジの設置位置(不図示)に厚さ方向に向かって穴が一つ穿設されている。図1における穴の形状は、眼鏡を正面から見たとき横方向に長い長穴形状をなしている(図1参照)。プラスチックレンズの材料は特に限定されるものではないが、高、中、低屈折率の材料全てが使用可能である。具体的には、ポリウレタン系、アリル系、アクリル系樹脂が挙げられる。

【0009】 ヨロイ2の先端部分には突起3が形成されており、その形状は穴と同じ長穴形状である。突起3の直径は特に限定されないが、円形の場合直径1.0~4.0mm程度が好ましい。レンズ1とヨロイ2の固定は、レンズ1に穿設された穴、または突起3の表面に接着剤を付け、突起3を穴に嵌合させることにより固定する。接着剤としては、エポキシ系、アクリル系、シアノアクリレート系、嫌気性系等を用いることができる。本願発明において、レンズに穿設される穴は貫通していることが必須である。その理由は以下の通りである。突起3を穴に嵌合させた場合、接着剤は突起3の嵌挿方向とは反対側の穴から押し出される。この接着剤が押し出される方向には、障害物は何もなく、余分な接着剤の除去が容易に可能である。仮に不貫通の穴であれば、図7aのように接着剤は突起の嵌挿方向に溢れることになる。

この場合、接着剤の溢れる方向にはヨロイ2があるために溢れた接着剤は除去しにくくなってしまう。

【0010】また、突起3の長さが穴の深さよりも小さく、穴の底と突起の先端部の間に接着剤が溜まってしまうような場合、図7bのように接着剤内に気泡が残ってしまうことがあり、外観上好ましくない。このような理由から本願発明のレンズに穿設される穴は貫通させる。本願発明に係わる突起は、ヨロイと一体的に形成されても良いし、突起を別途取り付けてもよい。ヨロイの材質は洋白、モネル、チタン、ニッケルクロム合金等を用いることができ、突起はヨロイと同じ材質で形成してもよいし、異なる材質のもので形成してもよい。

【0011】突起が1つの場合、突起の形状はレンズの回転防止の観点から図1に示すような長穴形状のものが好ましい。図2に示すように突起の表面に溝を形成することより接着力を強固にすることが可能となる。溝の形状、寸法、形成位置は図2に限定されるものではなく、螺旋状や、角形の形状を有する溝でもよい。溝の数は、複数形成することが好ましいが、3～数10本の長手方向の溝や数本の外周方向の溝等を単独または組み合わせることが可能である。溝の深さ及び幅は、溝形状、溝の数、ピンの径により異なってくるが、0.1～0.5mm、好ましくは0.1～0.3mm程度がよい。

【0012】また図3のようにレンズに穿設する穴を凹凸を有する形状にすることも可能であり、接着力を増加させることができ。この穴は、リーマのような工具を用いて形成することが可能である。突起表面に溝を形成し接着力を向上させれば、円形の突起1つでも接着することが可能である。また、図1に示したような長穴形状の突起表面に溝を形成してもよい。

【0013】突起が1つの場合、図2に示すように突起の形状が円形であるとレンズが回転しやすくなる場合がある。このようなときは、図4に示すようにヨロイの先端をY字状にし、それぞれの先端部に突起を設け、2つの突起により固定すればレンズが回転することもない。またファッショニ性に優れたものも製造できる。本願発明の突起の長さは、突起をレンズの穴に穿設したときに、他方から突出しないような長さ（穴の深さよりも短い長さ）にするのが良く、好ましくは穴の深さと突起の長さを同一にする。しかし、眼鏡装用者の処方箋によりレンズの厚さは多種多様であり、穴の深さもまちまちである。突起の長さを一定に製造した場合、穴の深さがまちまちであるために突起の先端が穴から突出してしまう場合がある。このような場合、穴の深さにあわせて、突起の長さを調節（例えば切断）することも可能である。図5に別な例を示す。

【0014】図5bは、断面の概略図である。この例では、レンズのある深さまでは、突起と同じ直径を有する穴を形成し、これより先の穴は、径の小さいものとすることもできる。図5では穴の断面が階段状になっている

が、穴の大きさを徐々に変化さるように径を変化させてもよい。このような構成の場合、レンズとの接触面積が多くなるので、より強固な接着が実現できる。また、突起の挿入方向とは反対側（図5ではレンズのR2面）に露出する接着剤面の領域が小さいので、レンズ表面と接着剤との境界が僅かとなり、外観上優れたものとなる。

【0015】更に、突起3と同じ径（形状）を有する穴の部分の深さを一定にすれば、レンズの厚さに左右されずに突起3の長さを一定（穴の深さと同一長さ）に形成することができるので、レンズの種類に合わせて、突起の長さを調整する必要がなくなる。尚、本願発明におけるレンズ保持部材とは、レンズとテンブルの間に設置され、レンズに直接接触し、レンズとテンブルを固定するヨロイやブリッジ等を称する。本実施例においては、主にヨロイについて説明したが、保持構造はブリッジにおいても同様である。

【0016】

【発明の効果】以上のように本願発明により、ボルトとナットを用いず、接着剤によりレンズを固定するので、レンズの固定が緩むことがない。また、部品点数が少ないので製造工程も少なく、製造コストの削減も実現できる。また、有効視野を広くすることができる。また、レンズ受金具の穴とレンズの穴の位置調整の必要もないでの、レンズに穿設する穴の位置の加工精度を厳密なものとする必要がなく製造が容易である。またレンズに穿設する穴はレンズを貫通しているので、余分な接着剤の除去が容易にでき、接着剤内に気泡が残存することもない。更に、眼鏡を正面から見たときに突起はヨロイに隠れるので突起が視界に入ることなく、外観上優れたものとなる。更にレンズのR2面側から突起は突出しないので、安全性に優れている。

【図面の簡単な説明】

【図1】は、本願発明の一実施例のレンズとヨロイの固定構造を示す概略図である。

【図2】は、本願発明の一実施例の突起の形状を示す概略図である。

【図3】は、本願発明の一実施例のレンズに穿設する穴の形状を示す概略図である。

【図4】は、本願発明の一実施例のレンズとヨロイの固定構造を示す概略図である。

【図5】は、本願発明の一実施例のレンズとヨロイの固定構造を示す概略図である。

【図6】は、従来のレンズとヨロイの固定構造を示す概略図である。

【図7】は、レンズに穿設する穴を不貫通にしたときの問題点を説明する概略図である。

【主要部分の符号の説明】

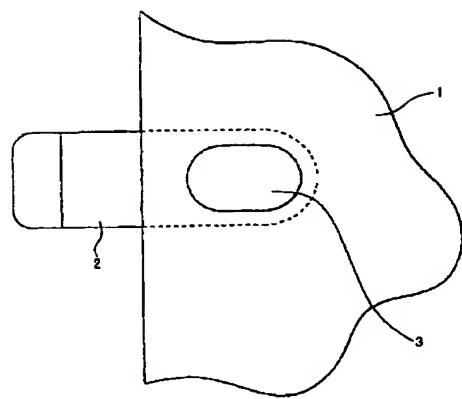
1…レンズ

2…ヨロイ

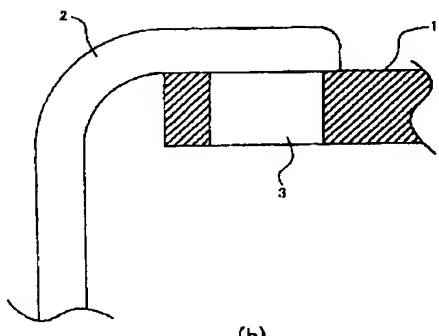
3 … 突起
4 … レンズ受金具
4' … 回転止め

* 5 … ボルト
6 … ナット
* 以上

【図1】

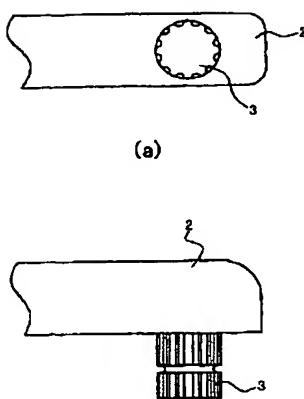


(a)

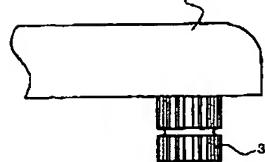


(b)

【図2】

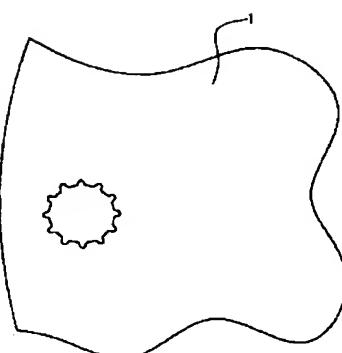


(a)

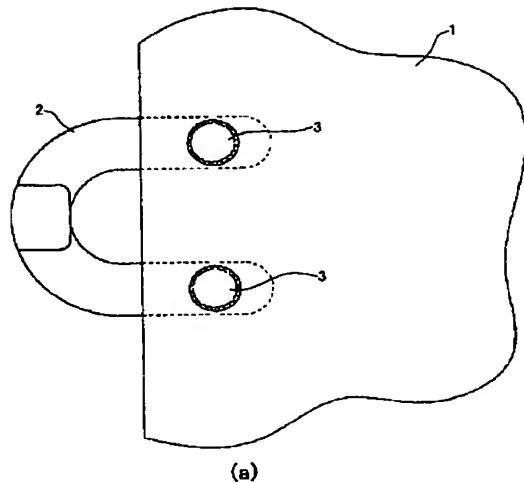


(b)

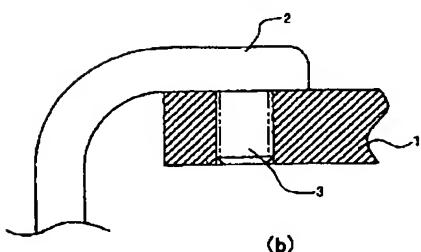
【図3】



【図4】

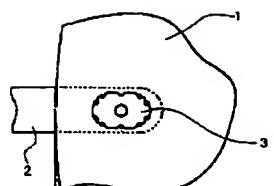


(a)



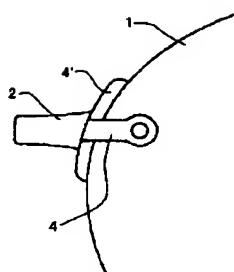
(b)

【図5】

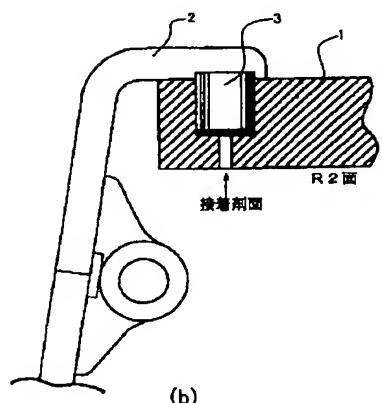


(a)

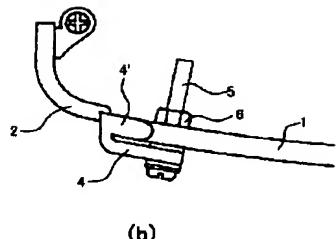
【図6】



(a)

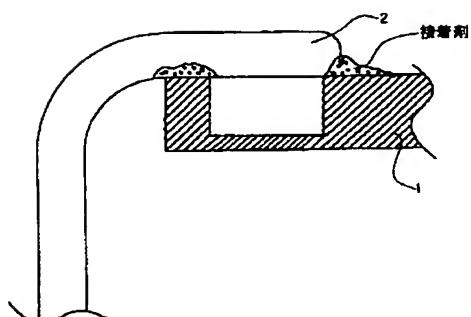


(b)

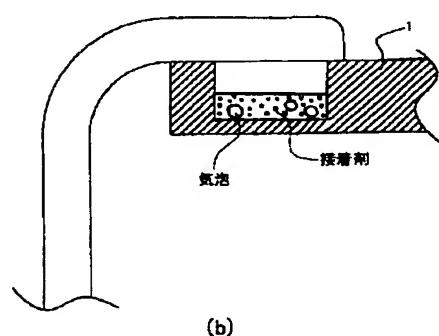


(b)

【図7】



(a)



(b)

【公報種別】特許法第17条の2の規定による補正の掲載
【部門区分】第6部門第2区分
【発行日】平成14年9月25日(2002.9.25)

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【国際特許分類第7版】

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【F 1】

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【手続補正書】

【提出日】平成14年7月10日(2002.7.10)

【手続補正1】

【補正対象書類名】明細書

【補正対象項目名】特許請求の範囲

【補正方法】変更

【補正内容】

【特許請求の範囲】

【請求項1】貫通穴を有する左右一対のレンズと、前記貫通穴に挿入する突起を有するヨロイ或いはブリッジとを有し、前記貫通穴は、前記突起が挿入される側の断面が広くその反対側の断面が狭くなっており、前記貫通穴に前記突起が接着により固定されていることを特徴とするリムレス眼鏡。

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[Specification]

[Claim(s)]

[Claim 1] The rim less glasses characterized by the projection formed in the surface of action with the lens in the lens attachment component holding a lens carrying out fit to the through hole drilled by said lens through adhesives.

[Claim 2] The glasses according to claim 1 characterized by forming irregularity in the front face of said projection.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] The invention in this application relates to the glasses with which the lens was held at YOROI about glasses without a rim, without using especially a screw and a nut.

[0002]

[Description of the Prior Art] As for the conventional glasses, what covers all the circumferences of a lens edge by the rim, and fixes a lens to a rim was common. However, recently, a request of a user becomes various and the class of design of glasses is also increasing. And the need of the glasses with which a rim is not conspicuous has increased for improvement in fashionability.

[0003] The thing of a type which attaches a lens with a screw and a nut also in it is common. The transverse-plane schematic diagram of this type of glasses is shown in drawing 6 a. Moreover, the schematic diagram when seeing from the upper part to drawing 6 b is shown. The installation hole for attaching YOROI 2 is drilled by the end of a lens 1. In the point of YOROI 2, the lens step implement 4 (refer to drawing 6) has fixed. The hole is drilled by this lens step implement 4, and it becomes the business to which the hole of a lens 1 laps with this. And the hole of the lens step implement 4 and the hole of a lens 1 were made to penetrate a bolt 5, and it was fixing by binding tight with a nut 6 from R 2nd page side of a lens.

[0004]

[Problem(s) to be Solved by the Invention] In the case of the glasses which fix a lens using a conventional bolt and a conventional nut, there were the following troubles. The draw-down of a screw and a nut loosens and it becomes easy to separate from immobilization of a lens, while wearing [1st] glasses. The dimension of the part involved in binding tight, originating in structure and binding tight with a bolt and a nut might become large, and appearance-troublesomeness might be sensed [2nd]. Furthermore, components mark increased, and since the production process also became mostly and complicated, there were also troubles, like production time starts. Therefore, it was also difficult to reduce a manufacturing cost.

[0005] In another conventional example (JP,7-230062,A) which does not use a bolt and a nut, when glasses were seen from a transverse plane, the fit-in section of YOROI fitted in from the lens end face might be seen, and exterior troublesomeness might be sensed. Moreover, in this conventional example, since the hole drilled in a lens had not penetrated, excessive adhesives might overflow in the contiguity section with the hole of the root of the fit-in section of YOROI fitted in when YOROI was pasted up using adhesives. When this was removed, the fit-in section of YOROI became obstructive, it was hard to remove adhesives, and there was a trouble of being hard to manufacture. Moreover, air bubbles remained at the bottom of the hole drilled in the lens, and the trouble that the bad glasses of appearance will be manufactured was also produced.

[0006]

[Means for Solving the Problem] this invention person was first based on the bolt and the nut, bound tight, and examined structure. Consequently, in immobilization of a lens, it turned out that the physical relationship of the lens step implement 4 and the core of the hole drilled in the lens 1 is important. Although this invention person examined this physical relationship, since he was the structure using a bolt and a nut, he was not able to solve the trouble of the trouble that immobilization loosens, components mark, a production process, and a manufacturing cost.

[0007] Then, this invention person fixed the lens, without using a bolt and a nut, and the appearance was further excellent, and he found out the fixed structure of the lens which can be manufactured easily. The invention in

this application is "rim loess glasses (claim 1) characterized by the projection formed in the surface of action with the lens in the lens attachment component holding a lens carrying out fit to the through hole drilled by said lens through adhesives" to the 1st. They are "the glasses (claim 2) according to claim 1 characterized by forming irregularity in said projection front face" to the 2nd.

[0008]

[Embodiment of the Invention] The schematic diagram of one example of the invention in this application is shown in drawing 1. Drawing 1 a is a lens when seeing the glasses of this example from a transverse plane, and the schematic diagram of the fixed portion of YOROI, and drawing 1 b is the schematic diagram of the cross section when seeing the above-mentioned part from the upper part. One hole is drilled in the installation location of YOROI, and the installation location (un-illustrating) of a bridge toward the thickness direction by the plastic lens 1. The configuration of the hole in drawing 1 is making the long slot configuration in the longitudinal direction, when glasses are seen from a transverse plane (refer to drawing 1). Although especially the ingredient of a plastic lens is not limited, all the ingredients of a low refractive index are usable into quantity. Specifically, a polyurethane system, an allyl compound system, and acrylic resin are mentioned.

[0009] The projection 3 is formed in a part for the point of YOROI 2, and the configuration is the same slot configuration as a hole. Although especially the diameter of projection 3 is not limited, when circular, the diameter of about 1.0-4.0mm is desirable. Immobilization of a lens 1 and YOROI 2 attaches adhesives to the hole drilled by the lens 1 or the front face of projection 3, and fixes them by making a hole carry out fit of the projection 3. As adhesives, an epoxy system, acrylic, a cyanoacrylate system, an anaerobic system, etc. can be used. As for the hole drilled by the lens, in the invention in this application, having penetrated is indispensable. The reason is as follows. When a hole is made to carry out fit of the projection 3, adhesives are extruded from the hole of the opposite side with the fit-in direction of projection 3. In the direction in which these adhesives are extruded, an obstruction does not have anything, and removal of excessive adhesives is easily possible for it in it. If it is a non-penetrated hole, adhesives will overflow in the fit-in direction of a projection like drawing 7 a. In this case, YOROI 2 will stop easily being able to remove the adhesives with which it overflowed since adhesives tend to have overflowed.

[0010] moreover, the thing which air bubbles remain in adhesives like drawing 7 b when the die length of projection 3 is smaller than the depth of a hole and adhesives collect between the bottom of a hole, and the point of a projection -- it is -- an exterior -- it is not desirable. Since it is such, the hole drilled by the lens of the invention in this application is made to penetrate. The projection concerning the invention in this application may be formed in one with YOROI, and may attach a projection separately. The quality of the material of YOROI can use nickel silver, Monel, titanium, a nickel-chromium alloy, etc., and you may form with the same quality of the material as YOROI, and a projection is the thing of the different quality of the material, and it may form it.

[0011] When a projection is one, the configuration of a projection has the desirable thing of a slot configuration as shown in drawing 1 from a viewpoint of rotation prevention of a lens. It becomes more possible than forming a slot on the surface of a projection as shown in drawing 2 to strengthen adhesive strength. The slot which is not limited to drawing 2 and has the shape of a spiral and the configuration of a square shape is sufficient as the configuration of a slot, a dimension, and a formation location. Although it is desirable to form more than one as for the number of slots, it is possible independent or to combine the slot of the longitudinal direction of 3 - ten numbers, several slots of the direction of a periphery, etc. Although the depth of flute and width of face change with the shape of a quirk, the number of slots, and paths of a pin, its about 0.1-0.3mm is preferably good 0.1-0.5mm.

[0012] Moreover, it is also possible to make the hole drilled in a lens like drawing 3 into the configuration which has irregularity, and adhesive strength can be made to increase. This hole can be formed using a tool like a reamer. If a slot is formed in a projection front face and adhesive strength is raised, it is possible to paste up at least one circular projection. Moreover, a slot may be formed in the projection front face of a slot configuration as shown in drawing 1.

[0013] When a projection is one, as shown in drawing 2, it is easy to rotate a lens as the configuration of a projection being circular, and may become. When such, if the tip of YOROI is made into the shape of Y character as shown in drawing 4, a projection is prepared in each point and it fixes by two projections, a lens will not rotate. Moreover, the thing excellent in fashionability can also be manufactured. When the die length of

a projection of the invention in this application drills a projection in the hole of a lens, making it die length (die length shorter than the depth of a hole) which does not project from another side makes the depth of a hole, and the die length of a projection the same often and preferably. However, the thickness of a lens is various by a glasses wearing person's prescription, and the depth of a hole is also various. When the die length of a projection is manufactured uniformly, since the depth of a hole is various, the tip of a projection may project from a hole. In such a case, it is also possible to adjust the die length of a projection in accordance with the depth of a hole (for example, cutting). Another example is shown in drawing 5.

[0014] Drawing 5 b is the schematic diagram of a cross section. In this example, in Fukashi with a lens, the hole which has the same diameter as a projection can be formed, and a previous hole can also be made [of a path] smaller than this. Although the cross section of a hole is stair-like in drawing 5, a path may be changed so that the magnitude of a hole may be changed gradually. Since a touch area with a lens increases in such a configuration, firmer adhesion is realizable. Moreover, since the path of insertion of a projection has the small field of the adhesive coated surface exposed to the opposite side (drawing 5 R of a lens 2nd page), the boundary of a lens front face and adhesives becomes small, and it becomes what was excellent on the appearance.

[0015] If the depth of the part of the hole which has the same path (configuration) as projection 3 is fixed, since the die length of projection 3 can be formed in regularity (the same die length as the depth of a hole), without being influenced by the thickness of a lens, it becomes unnecessary furthermore, to adjust the die length of a projection according to the class of lens. In addition, it is installed between a lens and Temple, a lens is contacted directly, and a lens, YOROI, a bridge which fix Temple, etc. are called the lens attachment component in the invention in this application. In this example, although YOROI was mainly explained, maintenance structure is the same also on a bridge.

[0016]

[Effect of the Invention] As mentioned above, by the invention in this application, since a lens is fixed with adhesives not using a bolt and a nut, immobilization of a lens does not loosen. Moreover, since there are few components mark, there are also few production processes, and reduction of a manufacturing cost can also be realized. Moreover, an effective visual field can be made large. Moreover, since there are not a hole of a lens step implement and the need for hole site adjustment of a lens, either, it is not necessary to make strict process tolerance of the hole site drilled in a lens, and manufacture is easy. Moreover, since the hole drilled in a lens has penetrated the lens, removal of excessive adhesives can be performed easily and air bubbles do not remain in adhesives. Furthermore, when glasses are seen from a transverse plane, since a projection hides in YOROI, it becomes what a projection did not go into a field of view and was excellent on the appearance. Furthermore, since a projection does not project from R 2nd page side of a lens, it excels in safety.

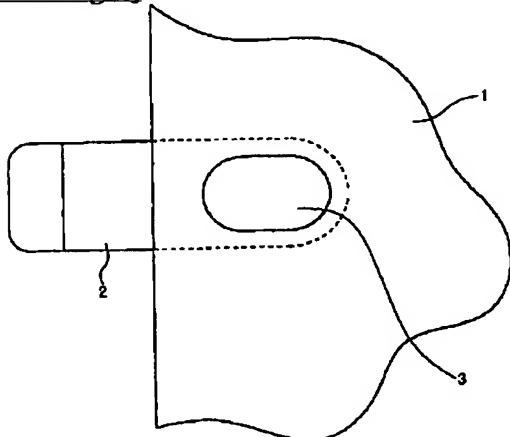
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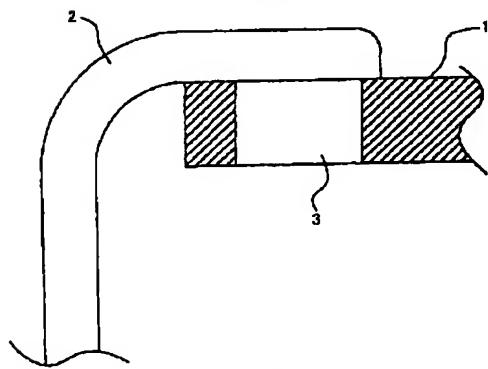
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DRAWINGS

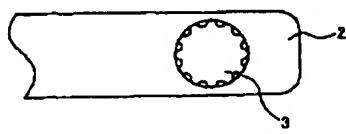
[Drawing 1]

(a)

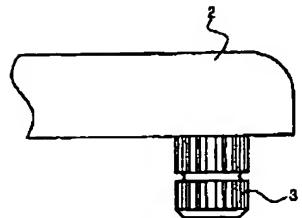


(b)

[Drawing 2]

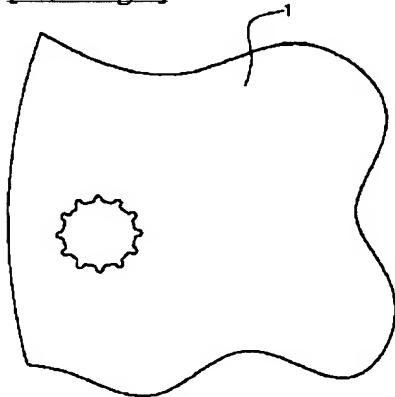


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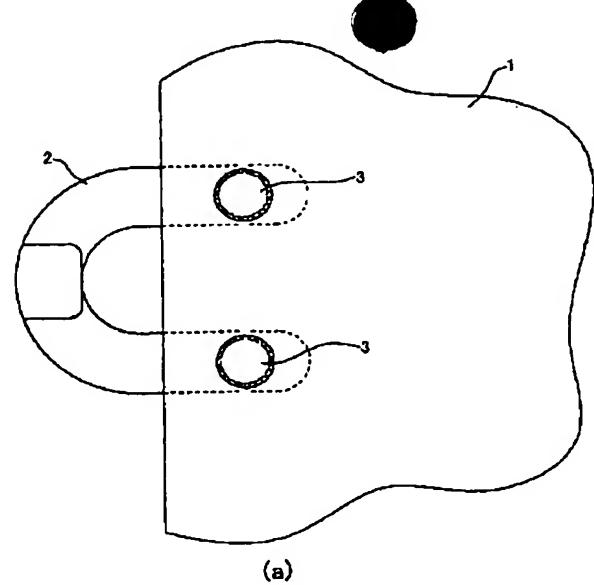


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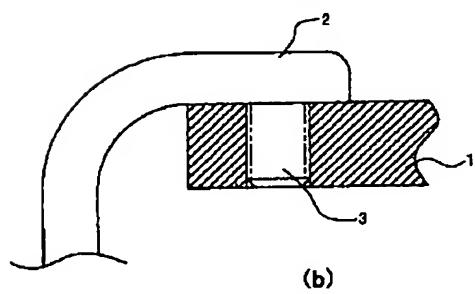
[Drawing 3]



[Drawing 4]

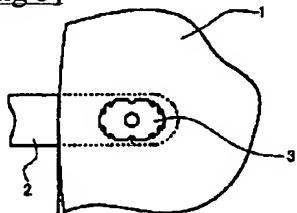


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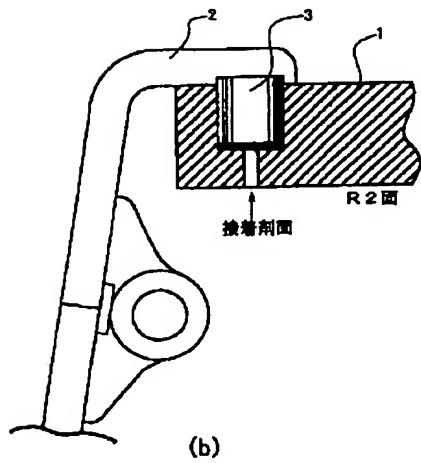


(b)

[Drawing 5]

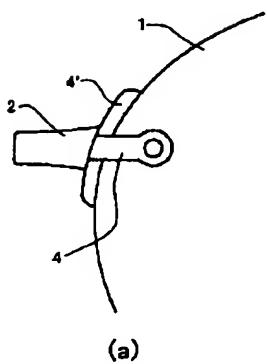


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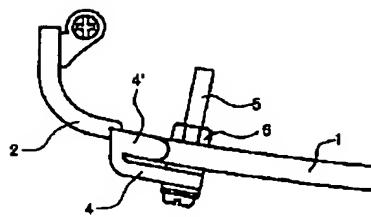


(b)

[Drawing 6]

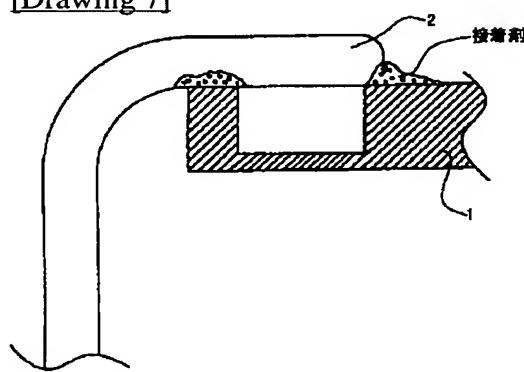


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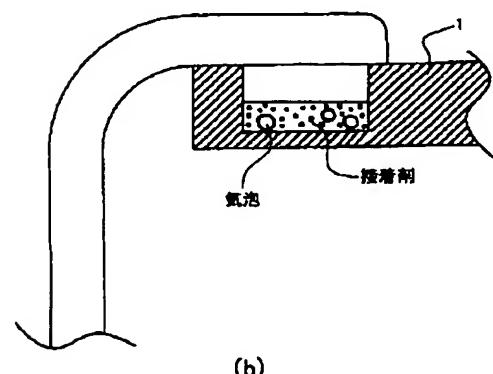


(b)

[Drawing 7]



(a)



(b)

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CORRECTION OR AMENDMENT

[Kind of official gazette] Printing of amendment by the convention of 2 of Article 17 of Patent Law

[Section partition] The 2nd partition of the 6th section

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[Filing Date] July 10, Heisei 14 (2002. 7.10)

[Procedure amendment 1]

[Document to be Amended] Specification

[Item(s) to be Amended] Claim

[Method of Amendment] Modification

[Proposed Amendment]

[Claim(s)]

[Claim 1] For the near cross section where it has the lens of a Uichi Hidari pair which has a through hole, and YOROI or the bridge which has the projection inserted in said through hole, and said projection is inserted, said through holes are rim loess glasses with which it is characterized by for the cross section of the opposite side being narrow widely, and said projection being fixed to said through hole by adhesion.

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